CLAIM AMENDMENTS

Claim 1 (currently amended): ~~A portable security alarm system for detecting the movement of an object and providing information relative to said movement, said system comprising a movement detecting and signal transmitting means for detecting movement an object and wirelessly transmitting a predetermined signal indicating movement of said object, and a receiver means for receiving said predetermined signal and providing a security response, said movement detecting and signal transmitting means comprising an~~A movement detecting device comprising an inertial sensor adapted to sense both long wave and vibratory motion, and control circuitry for distinguishing between a long-wave motion event and a vibration motion event.

Claim 2 (currently amended): The ~~system~~device of claim 1 wherein said ~~movement detecting and signal transmitting means~~sensor comprises a gyroscope sensor.

Claim 3 (currently amended): The ~~system~~device of claim 1 wherein said ~~movement detecting and signal transmitting means~~sensor comprises a MEMS accelerometer sensor.

Claim 4 (currently amended): The ~~system~~device of claim 1 wherein said ~~movement detecting and signal transmitting means~~sensor comprises a piezo film accelerometer sensor.

Claim 5 (currently amended): The ~~system~~device of claim ~~2~~1 wherein said ~~movement detecting and signal transmitting means~~sensor comprises ~~an accelerometer sensor with a piezoelectric audio transducer construction that includes a piezoelectric element mounted to a diaphragm, said sensor further including~~ a piezoelectric transducer having a piezoelectric element and a mass operatively attached to flex said ~~diaphragm~~piezoelectric element.

Claim 6 (currently amended): The ~~system~~device of claim 5 wherein said mass is one of a quantity of adhesive, a quantity of solder, or a solid object bonded to said ~~diaphragm~~piezoelectric element or to a substrate associated therewith.

Claim 7 (currently amended): The ~~system~~device of claim 1 wherein said ~~movement detecting and signal transmitting means~~sensor comprises ~~an accelerometer sensor with a piezoelectric~~

~~audio transducer construction that includes a piezoelectric element mounted to a diaphragm, and with said~~ a piezoelectric element ~~and said diaphragm being~~ disposed within a partial vacuum environment.

Claim 8 (currently amended): The ~~system~~device of claim 7 wherein said partial vacuum environment is provided by an airtight compartment.

Claim 9 (currently amended): The ~~system~~device of claim 8 wherein said airtight compartment is a vacuum sealed enclosure.

Claims 10-39 (canceled).

Claim 40 (currently amended): ~~A portable security alarm system for detecting the movement of an object and providing information relative to said movement, said system comprising a movement detecting and signal transmitting means for detecting movement of an object and wirelessly transmitting a predetermined signal indicating movement of said object, and a receiver means for receiving said predetermined signal and providing a security response, said movement detecting and signal transmitting means comprising an~~An inertial sensor ~~that includes~~comprising a piezoelectric transducer having a piezoelectric element~~, mounted to a flexible diaphragm, and~~ a mass ~~on one of~~secured for rolling motion via a cantilevered coupling connection to said piezoelectric transducer, ~~said piezoelectric element and said diaphragm such that~~ a substantial portion of said mass ~~is~~being disposed within a perimeter of said piezoelectric ~~element or said diaphragm~~transducer, and said cantilevered coupling connection having a cross-sectional dimension that is smaller than a cross-sectional dimension of said mass to facilitate said rolling motion.

Claim 41 (currently amended): The ~~system~~sensor of claim 40 wherein ~~said mass is secured to said piezoelectric element or said diaphragm by way of a~~ cantilever coupling connection ~~that~~is adapted to introduce~~s~~ a desired strain in said piezoelectric element ~~through flexing of said diaphragm~~ as said sensor is accelerated in a direction generally orthogonal to a principal plane of said diaphragm.

Claim 42 (currently amended): The ~~system~~sensor of claim 40 wherein said ~~mass is secured to said piezoelectric element or said diaphragm by way of a~~ cantilever coupling connection is adapted to ~~that is sized to~~ introduce a desired strain in said piezoelectric element ~~through a cantilever coupling moment~~ as said sensor is accelerated in a direction generally parallel to a principal plane of said diaphragm.

Claim 43 (currently amended): The ~~system~~sensor of claim 40 wherein said mass is unstable.

Claim 44 (currently amended): The ~~system~~sensor of claim 40 wherein said mass is unstable and unbalanced.

Claim 45 (currently amended): The ~~system~~sensor of claim 44 wherein said mass comprises a primary mass element that is attached to ~~one of~~ said piezoelectric transducer~~element and said diaphragm~~, and a secondary mass element on said primary mass element.

Claim 46 (currently amended): The ~~system~~sensor of claim 45 wherein said primary mass element is larger than said secondary mass element.

Claim 47 (currently amended): The ~~system~~sensor of claim 45 wherein one or both of said primary mass and said secondary mass are generally spherical in shape.

Claim 48 (currently amended): The ~~system~~sensor of claim 45 wherein said secondary mass element is on said primary mass element at a location that is offset from a line extending through said piezoelectric element and a center of gravity of said primary mass element.

Claim 49 (currently amended): The ~~system~~sensor of claim 40 wherein said ~~inertial~~ sensor comprises a piezoelectric audio transducer having said mass secured thereto.

Claim 50 (currently amended): The ~~system~~sensor of claim 40 ~~wherein said inertial sensor comprises~~further including a support ring housing to which said ~~diaphragm~~piezoelectric transducer is mounted and which facilitates free-flexing of said ~~diaphragm~~piezoelectric element.

Claim 51 (currently amended): The ~~system~~sensor of claim 40~~ said sensor~~ further including a main housing carrying said ~~inertial~~ sensor, a circuit board, a battery and means for affixing said ~~movement detecting and signal transmitting means~~device to ~~said~~an object whose movement is to be detected.

Claim 52 (currently amended): The ~~system~~sensor of claim 51 wherein said ~~diaphragm~~piezoelectric transducer is mounted to a ring housing that is attached via clips to said circuit board.

Claim 53 (currently amended): The ~~system~~sensor of claim 51 wherein said means for affixing comprises adhesive.

Claims 54-67 (canceled).

Claim 68 (new): The device of claim 1, wherein said sensor and said control circuitry are disposed in a device that is activated or deactivated by said sensor detecting inertial movement.

Claim 69 (new): The device of claim 1 wherein said sensor and said control circuitry are disposed in a movement detecting device adapted to generate an output in response to said sensor detecting inertial movement.

Claim 70 (new): The device of claim 1 wherein said sensor and said control circuitry are disposed in a movement detecting and signal transmitting device adapted to transmit a wireless radio frequency signal in response to said sensor detecting inertial movement.

Claim 71 (new): The device of claim 1 wherein said sensor and said control circuitry are disposed in a portable security system adapted to forward a security alert to a telephone number, email address or other endpoint in response to said sensor detecting inertial movement.

Claim 72 (new): The sensor of claim 40, wherein said sensor is disposed in a device that is activated or deactivated by said sensor detecting inertial movement.

Claim 73 (new): The sensor of claim 40 wherein said sensor is disposed in a movement detecting device adapted to generate an output in response to said sensor detecting inertial movement.

Claim 74 (new): The sensor of claim 40 wherein said sensor is disposed in a movement detecting and signal transmitting device adapted to transmit a wireless radio frequency signal in response to said sensor detecting inertial movement.

Claim 75 (new): The sensor of claim 40 wherein said sensor is disposed in a portable security system adapted to forward a security alert to a telephone number, an email address or other endpoint in response to said sensor detecting inertial movement.

Claim 76 (new): A movement detecting device comprising an inertial sensor and adapted to sense multidirectional movement, and control circuitry for distinguishing a direction of movement sensed by said sensor.

Claim 77 (new): The device of claim 76 wherein said control circuitry comprises a first circuit adapted for sensing movement in a first direction and a second circuit adapted for sensing movement in a second direction.

Claim 78 (new): The device of claim 76 wherein said first and second circuits respectively comprise positive and negative displacement threshold circuits adapted to produce an output when said sensor detects a specified level of movement, said positive and negative displacement threshold circuits having either the same or different displacement thresholds.

Claim 79 (currently amended): The device of claim 76 wherein said sensor comprises a gyroscope sensor.

Claim 80 (currently amended): The device of claim 76 wherein said sensor comprises a MEMS accelerometer sensor.

Claim 81 (currently amended): The device of claim 76 wherein said sensor comprises a piezo film accelerometer sensor.

Claim 82 (currently amended): The device of claim 76 wherein said sensor comprises a piezoelectric transducer having a piezoelectric element and a mass operatively attached to flex said piezoelectric element.

Claim 83 (currently amended): The device of claim 82 wherein said mass is one of a quantity of adhesive, a quantity of solder, or a solid object bonded to said piezoelectric element or to a substrate associated therewith.

Claim 84 (currently amended): The device of claim 76 wherein said sensor comprises a piezoelectric element disposed within a partial vacuum environment.

Claim 85 (currently amended): The device of claim 84 wherein said partial vacuum environment is provided by an airtight compartment.

Claim 86 (currently amended): The device of claim 76 further comprising a magnetic field sensor.

Claim 87 (new): The sensor of claim 76 wherein said sensor is disposed in a device that is activated or deactivated by said sensor detecting inertial movement.

Claim 88 (new): The sensor of claim 76 wherein said sensor is disposed in a movement detecting device adapted to generate an output in response to said sensor detecting inertial movement.

Claim 89 (new): The sensor of claim 76 wherein said sensor is disposed in a movement detecting and signal transmitting device adapted to transmit a wireless radio frequency signal in response to said sensor detecting inertial movement.

Claim 90 (new): The sensor of claim 76 wherein said sensor is disposed in a portable security system adapted to forward a security alert to a telephone number, an email address or other endpoint in response to said sensor detecting inertial movement.

Claim 91 (new): A movement detecting device comprising an inertial sensor disposed in a vacuum environment.

Claim 92 (new): The device of claim 91 wherein said sensor comprises a gyroscope sensor.

Claim 93 (new): The device of claim 91 wherein said sensor comprises a MEMS accelerometer sensor.

Claim 94 (new): The device of claim 91 wherein said sensor comprises a piezo film accelerometer sensor.

Claim 95 (new): The device of claim 94 wherein said piezo film accelerometer comprises a piezoelectric element on a substrate.

Claim 96 (new): The device of claim 94 wherein said piezo film accelerometer comprises a piezoelectric audio transducer.

Claim 97 (new): The device of claim 91 wherein said sensor comprises a piezoelectric element and a mass operatively attached to flex said piezoelectric element.

Claim 98 (new): The device of claim 97 wherein said mass is one of a quantity of adhesive, a quantity of solder, or a solid object bonded to said piezoelectric element or to a substrate associated therewith.

Claim 99 (new): The device of claim 91 wherein said vacuum environment is provided by an airtight compartment.

Claim 100 (new): The device of claim 99 wherein said airtight compartment is a vacuum sealed enclosure.

Claim 101 (new): The device of claim 91 wherein said device is disposed in a device that is activated or deactivated by said sensor detecting inertial movement.

Claim 102 (new): The device of claim 91 wherein said device is disposed in a movement detecting device adapted to generate an output in response to said sensor detecting inertial movement.

Claim 103 (new): The device of claim 91 wherein said device is disposed in a movement detecting and signal transmitting device adapted to transmit a wireless radio frequency signal in response to said sensor detecting inertial movement.

Claim 104 (new): The device of claim 91 wherein said device is disposed in a portable security system adapted to forward a security alert to a telephone number, an email address or other endpoint in response to said sensor detecting inertial movement.

Claim 105 (new): A self-adhering sensor module comprising a housing, a circuit board in said housing, a battery in said housing providing operative power to said circuit board, adhesive on said housing for attaching said sensor to an object whose motion is to be detected, and a piezoelectric transducer in said housing electrically connected to said circuit board, said piezoelectric transducer comprising a piezoelectric film and having an unsupported central portion and a perimeter supported by a ring structure in said housing, and an unstable, unbalanced mass on said piezoelectric transducer substantially disposed within said piezoelectric transducer perimeter.

Claim 106 (new): The sensor of claim 105 wherein said unstable, unbalanced mass comprises a mass attached to a central portion of said piezoelectric transducer via a cantilevered connection having a cross-section that is smaller than a cross-section of said mass to facilitate rolling motion of said mass.

Claim 107 (new): The sensor module of claim 105 wherein said unstable, unbalanced mass comprises a mass having a lower rounded surface attached to a central portion of said piezoelectric transducer to facilitate rolling motion of said mass.

Claim 108 (new): The sensor module of claim 105 wherein said sensor module is disposed in a device that is activated or deactivated by said sensor detecting inertial movement.

Claim 109 (new): The sensor module of claim 105 wherein said sensor module is disposed in a movement detecting device adapted to generate an output in response to said sensor detecting inertial movement.

Claim 110 (new): The sensor module of claim 105 wherein said sensor module is disposed in a movement detecting and signal transmitting device adapted to transmit a wireless radio frequency signal in response to said sensor detecting inertial movement.

Claim 111 (new): The sensor module of claim 105 wherein said sensor module is disposed in a portable security system adapted to forward a security alert to a telephone number, an email address or other endpoint in response to said sensor detecting inertial movement.